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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,045	02/20/2004	Jim D. Mcador	32849	6833

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Hovey Williams LLP  
Suite 400  
2405 Grand Blvd.  
Kansas City, MO 64108

EXAMINER

MOORE, MARGARET G

ART UNIT PAPER NUMBER

1712

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/784,045

Applicant(s)

MEADOR ET AL.

Examiner

Margaret G. Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 41-49, 51-64, 66-82 and 84-94 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 89-94 is/are allowed.
- 6) ☒ Claim(s) 41, 42, 44-48, 52, 53, 57, 58, 60-63, 66-68, 71, 75, 76, 78-81, 85 and 86 is/are rejected.
- 7) ☒ Claim(s) 43, 49, 51, 54-56, 59, 64, 69, 70, 72-74, 77, 82, 84, 87, 88 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/6/06 has been entered.
2. In view of applicants' amendment, the rejection over Angelopoulos et al. has been withdrawn. Applicants correctly note that this reference does not teach or suggest a crosslinking agent. Upon an updated search, in consideration of the new limitations, the following new reference was discovered and a new ground of rejection is being made.
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 41, 42, 48, 52, 53, 57, 58, 63, 67, 71, 75, 76, 81 and 85 are rejected under 35 U.S.C. 102(b) as being anticipated by Zank et al.

Zank et al. teach hydrogenated octasilsesquioxane – vinyl group copolymers prepared by reacting a polyhedral oligomeric silsesquioxane (herein POSS) compound with a crosslinking agent. Note that Formula 1, shown in the abstract, corresponds to the formula in claim 42 wherein R<sup>3</sup> is hydrogen. The POSS compound reacts with a divalent

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compound represented by Formula 2 in the abstract. This compound is referred to as a crosslinking agent by Zank et al. (see column 8, line 34 and column 7, line 56). In this manner instant claims 41 and 42 are met by the teachings in Zank et al. The abstract also teaches a catalyst, meeting claim 48. These reactants as well as the reaction product are present in an organic solvent. See again the abstract as well as col. 6, line 58.

For claims 53, 57, 71 and 75, note that column 4, line 60 and on, teach applying this composition to a substrate including a silicon wafer.

Column 7, line 10 and on, teaches the final product. Note that lines 36 and on indicate that a copolymer having three or more SiH groups reacted with the divinyl compound is prepared.

For claims 52, 67 and 85, note that the composition in claims 41, as well as the substrate of claims 53 and the method of claim 71, the Examiner acknowledges that the prior art is silent as to the spin bowl compatibility test. The compositions in each of these claims, however, is fully anticipated by the composition in Zank et al. Products of identical chemical composition can not have mutually exclusive properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present.

6. Claims 68 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zank et al.

The only thickness value taught by Zank et al. is 500 nm on line 65 of column 11. Adjusting the thickness layer, however, in an effort to correlate the resulting film with the desired utility and corresponding properties would have been obvious and well within the skill of the ordinary artisan. Thus, making the film thinner than the 500 nm would have been obvious and well within routine experimentation and/or optimization, render the instant claims obvious.

7. Claims 41, 42, 44 to 48, 52, 53, 58, 60 to 63, 67, 71, 76, 78 to 81 and 85 are rejected under 35 U.S.C. 102(b) as being anticipated by Lichtenhan et al.

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The teachings of Lichtenhan et al. have been discussed in previous office actions as this rejection is comparable to the rejections previously made. Applicants argue that Lichtenhan et al. do not teach a crosslinking agent, but simply methods of forming polymers where a silsesquioxane is a monomer in that polymer. The Examiner notes though that such a method is not really distinguished from that which is claimed. Applicants are reminded that the claimed "constituent" can be a POSS compound and the term "crosslinking agent" is quite broad. The claimed composition, for instance, can comprise only a POSS monomer and a crosslinking agent capable of forming a polymer.

Again, while the term crosslinking agent is broad, the Examiner recognizes that it does not read on mono- functional reactants such as acrylates. The bottom of column 2 teaches that the reactant of formula 2 (i.e. the POSS) can be reacted with *polyolefins*. Such a reactant, having multiple functional sites, meets the general term crosslinking agent. On the other hand, note column 8, lines 34 and on. This teaches the reaction of a POSS compound with a polymer or oligomer having terminal reactive groups. This polymer or oligomer will thus *crosslink* the POSS compound.

The Examiner relies on the rationale noted above for claims 52, 67 and 85.

8. Claims 43, 49, 51, 54-56, 59, 64, 69, 70, 72-74, 77, 82, 84, 87 and 88 are objected to as being dependent upon rejected base claims. This is consistent with the rationale of record.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-272-1090. The examiner can normally be reached on Monday to Wednesday and Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Margaret G. Moore  
Primary Examiner  
Art Unit 1712

mgm  
2/10/06